CONDUENT

Unlocking success with GenAI:
A comprehensive guide

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Contents

Note:
For a foundational understanding, we recommend reviewing Conduent's previous **eBook**, which provides an introduction to GenAI. In this whitepaper, we focus on sharing best practices and learnings rather than prescribing specific GenAI models or detailing security and privacy frameworks. Furthermore, we do not specify which use cases to select or prioritize, as these decisions should align with your unique organizational needs and strategic goals. Additionally, while we do not provide guidance on procurement or partnership strategies with GenAI providers, we recommend establishing a vetting process for external vendors to ensure their practices meet your company's privacy and security standards.

Generative AI (GenAI) opens a new world of possibilities for overcoming complex business challenges for both large enterprises and nimble startups alike.

IDC, a leading global market research firm, **estimates** that by 2025, organizations within the Global 2000 (G2000) are projected to allocate over 40% of their core IT budget to AI-related initiatives driven by the rapid proliferation of GenAI adoption. This surge in investment reflects a widespread eagerness among enterprises to leverage cutting-edge AI technologies and secure a competitive edge. But GenAI isn't a one-size-fits-all, set-it-and-forget-it solution. It often requires constant human oversight to ensure effectiveness over time. AI is often only as good as the data made available to it.

While some organizations have made strides launching GenAI-powered solutions tailored to their customers' needs, many others are still grappling with how to implement it effectively. Despite the widespread enthusiasm, there remains considerable confusion about GenAI's capabilities and potential applications, leading to uncertainty about where to begin its implementation and maintain its upkeep.

As organizations consider adopting GenAI into business processes, several key questions emerge: How can the organization get the most value out of GenAI? Who should oversee and manage the GenAI implementation? Where does the organization start and identify the right use cases? What governance frameworks should be established to manage the legal, ethical and compliance risks associated with GenAI? How does the organization measure success, ensuring that GenAI initiatives remain aligned with evolving business needs?

This whitepaper is designed to help you navigate the complex landscape of GenAI and ensure that your investment translates into real, measurable value for your business. The insights and findings are based on Conduent's experience working on traditional AI for several years, which has evolved into successfully launching and executing an enterprise-wide GenAI program to bring new capabilities to our solutions and operations. Now, Conduent is utilizing GenAI across different use cases and domains, building foundational capabilities around unstructured documents, context-based analytics and a comprehensive GenAI assistant. Whether you are just beginning to explore the possibilities of GenAI or looking to optimize an existing implementation, this paper will provide you with a robust framework to advance confidently in this dynamic field.

GenAI does not fully replace humans. It significantly enhances human capabilities by automating tasks and providing creative support.

Understanding GenAI and debunking myths

First and foremost, it is essential to grasp what GenAI is actually capable of. GenAI does not fully replace humans; instead, it enhances human capabilities by automating tasks and providing creative support. While it is true that GenAI could reduce the number of roles requiring simple, repetitive tasks, it is not an outright replacement for human roles. Rather, it augments human creativity and productivity, requiring human guidance and input. For example, in customer service, GenAI can efficiently handle routine inquiries, allowing human agents to focus on more complex and nuanced interactions that demand empathy and critical thinking.

Another common misconception is that GenAI is solely about content generation. While its ability to produce text, images and videos is widely recognized, the real power of GenAI lies in its capacity to identify and learn from data patterns. This capability enables it to make informed decisions on unstructured data, thereby enhancing various business processes. For instance, GenAI can analyze sentiment across vast amounts of customer feedback from various channels. This enables GenAI to provide actionable insights that help improve customer satisfaction and loyalty.

GenAI is not a stand-alone technology or model; it's a collection of various models and techniques. Each of these models has specific applications and limitations. When combined, these models can enable us to do greater tasks. For instance, in analyzing scientific papers, we can pair Computer Vision and Large Language Models (LLMs) to interpret complex graphs and extract contextual information from accompanying text. This integration allows for a deeper understanding of the data, facilitating more accurate research insights and efficient data navigation without solely relying on traditional Optical Character Recognition (OCR). Similarly, if we already have an AI-based bot deployed for certain tasks, GenAI can be integrated to enhance existing capabilities rather than replace them entirely. This can result in a more robust and intelligent solution.

The notion that GenAI requires no human intervention is a myth. Despite its capabilities, GenAI has its limitations. It cannot be held accountable in the way humans can. While it often provides precise outcomes, it is not 100% accurate. Human oversight is necessary to own and manage processes where accountability is critical. Although it can automate certain tasks, human guidance is still needed, particularly in training the models, providing instructions to pre-built models and ensuring they align with organizational or project goals.

IDC forecasts that enterprise investments in GenAI solutions are projected to surge to **$143 billion** by 2027 from $16 billion in 2023

Additionally, GenAI is not a one-size-fits-all solution. Different use cases often require customized instructions; what works for marketing content might not be suitable for financial forecasting or medical data analysis. Each application needs to be carefully tailored to meet specific requirements. It's also important to be aware of the "lost in the middle" problem, where GenAI may struggle giving a correct output when input data is too long. Addressing these challenges requires a thoughtful approach to the design and deployment of GenAI models and other technologies, ensuring that the AI is appropriately targeted and monitored to mitigate potential issues.

GenAI cannot instantly transform a business process. While GenAI can indeed drive significant improvements, transformation is not instantaneous. It requires careful planning, continuous refinement and a long-term commitment to integrating AI into business processes. Now that we have a better understanding of what GenAI is capable of, let's explore how to get started.

Part A: Getting started

IDC forecasts that enterprise investments in GenAI solutions are projected to surge to $143 billion by 2027 from $16 billion in 2023. This represents an annualized growth rate of over 73% during the forecast period. For context, this growth rate is twice that of overall AI spending and 13 times the growth rate of overall worldwide IT spending during the same period. As a result, enterprises are investing heavily in these newer GenAI technologies so they don't get left behind. However, despite these ambitious allocations, many enterprises face hurdles such as data silos, integration complexities and a scarcity of skilled professionals, which can impede the realization of GenAI's full potential.

Implementing GenAI in isolation diminishes its overall business impact. Instead, GenAI must seamlessly integrate with existing technological frameworks. The problem here is that companies often initiate pilot projects focused on specific use cases without considering the need for broader integration into business processes or exploring opportunities to leverage GenAI benefits across the enterprise.

To circumvent these challenges, we recommend adopting a programmatic approach. Start by identifying key problems affecting your business, list potential use cases, consider their synergies across the organization and then select the most promising use cases for further development. In this section, we will share the best practices that have proven successful for implementing GenAI.

A1: The benefits of a programmatic approach

No matter if you're just starting your GenAI journey, testing a few use cases or scaling up with multiple implementations, a programmatic approach can be a competitive differentiator for your organization. Being programmatic standardizes processes and methodologies across projects, ensuring consistency and quality in deployment. This structured approach not only ensures that your GenAI projects are executed effectively and efficiently but also aligns them with the overarching goal of solving real business challenges. By centralizing program management and developing a reusable set of capabilities, you can make it easier to share best practices and replicate successful processes.

This approach also enhances the resource management and scalability of AI solutions across various organizational units, maximizing return on your AI investments. By managing workstreams for key activities, a programmatic approach helps prevent redundancy and ensures that efforts are not duplicated within the organization. This is particularly effective in areas like service partnerships, where understanding across silos can significantly boost efficiency.

The organizational processes required to initiate projects, allocate resources and track costs are complex and time-consuming. Implementing a clear, timely action plan for each project accelerates these efforts, but a successful pilot requires a methodical, consistent approach that makes the process repeatable, timely and scalable. Utilizing cross-functional teams, continuous learning and iterative development increases the chances of full-scale implementation.

For a GenAI project to be effective, you must look at its lifecycle end-to-end, from use case identification to solution deployment and continuous improvement. Moreover, it's important to secure stakeholder buy-in early in the project. Executing pilots, whether as standalone Proofs of Concept (POC) or followed by the development and deployment of a Minimum Viable Product (MVP) for use and validation, allows the program team to demonstrate and validate results, secure support with the right people and estimate the costs and benefits for a comprehensive business case.

Getting leadership buy-in early

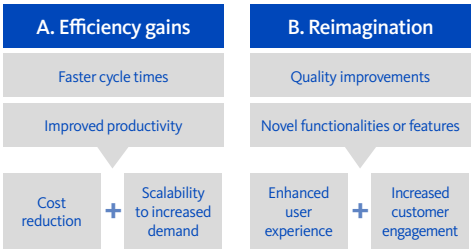
Top-down buy-in from the executive team leads helps put plans in action and ensure the seamless integration of AI technologies across the organization. There will be many moving pieces involved with a GenAI implementation including assessing, prioritizing, planning and executing. This type of work can demand significant resources and cannot be isolated from broader organizational strategies. It thrives on cross-functional collaboration, leveraging skills and expertise from both internal teams and external partners. Additionally, certain unique projects within the program may require both executive and mid-level sponsorship to bring in specialized subject matter expertise and ensure that there is robust support for implementation in specific areas. Executive sponsors are needed for approving priorities, resources and budgets as well as championing change and fostering a culture of innovation that adapts to feedback and continuously refines AI strategies.

A2: Assessing problems and identifying the right use cases

Before identifying use cases, you must understand the business process value chain and the current trends, challenges and emerging technologies in your domain. This will help pinpoint where GenAI will have the most impact, enabling you to harness its full potential.

First, identify specific business problems you want to solve with GenAI, focusing on the potential value these solutions can deliver. These problems can range from large-scale, complex challenges to repetitive, time-consuming tasks. This identification process requires active engagement with stakeholders and a detailed analysis of workflows. By collaborating with domain experts, end-users and other stakeholders, you gain insights into the pain points where you can make radical efficiency improvements or take strategic bets that offer unique advantages.

Addressing business problems and delivering value: business process efficiency gains and re-imagination through GenAI



A. Efficiency gains

The potential value that GenAI can deliver includes accelerating cycle times and boosting productivity. Automating routine tasks such as data entry or report generation can significantly enhance employee productivity, freeing them to focus on more strategic, high-value activities that propel business growth. These efficiency gains not only have a direct and positive impact on your financial bottom line but also enhance your organization's ability to scale effectively. GenAI can help your business handle increasing customer volumes and project scopes without compromising on service quality or speed.

Let's look at some examples of potential business problems that could result in efficiency gains from GenAI.

Example problem 1:

In the insurance industry, domain experts or operations executives may identify that significant manual effort is being spent on reviewing unstructured documents, such as correspondence related to claims or disputes.

These stakeholders might highlight that sifting through a single dispute could take anywhere from 5 minutes to 30 minutes, depending on its complexity. When you consider that an insurance company might handle thousands of such documents each week, the cumulative time and effort required become substantial. This process is not only time-consuming but also prone to errors, leading to inefficiencies and potential inaccuracies in processing claims. Such insights from those directly involved in the day-to-day operations can reveal opportunities where GenAI combined with automation could streamline workflows, reduce processing times and enhance overall accuracy.

Example problem 2:

A compelling challenge comes from customer service managers and leaders who highlight the inefficiencies in handling customer complaints on a global scale.

Maintaining multiple regional centers to manage complaints from different parts of the world often leads to inconsistencies in service quality, delays in response times and increased operational costs. These regional centers are responsible for translating and categorizing complaints in various languages, spending substantial manual time for each complaint. When this process is scaled across thousands of complaints, it becomes increasingly inefficient and costly. Recognizing these challenges, stakeholders might advocate for centralizing operations into a single global hub. This hub, empowered by GenAI, could automate translation and categorization, significantly speeding up response times and enhancing accuracy. Such centralization not only streamlines operations but also aligns with strategic goals to reduce costs and improve customer satisfaction globally.

B. Reimagination

The value that GenAI brings extends beyond operational efficiencies to strategic enhancements that can reshape market positioning. By introducing innovative features such as real-time user assistants, GenAI can enrich customer interactions, providing insights and support that elevate customer satisfaction and engagement. Leveraging GenAI to enhance overall quality ensures that products and services consistently exceed the highest standards and improve the user experience. Implementing GenAI-driven functionalities like intelligent assistants not only optimizes customer service operations but also ensures timely and accurate information delivery, which increases loyalty.

Let's look at some examples of imagination that can help address business problems.

Example problem 3:

Customers grapple with searching vast amounts of data like service options, terms of conditions and support documentation.

Despite the availability of self-service portals, inefficient search functions can frustrate users and affect satisfaction. Leveraging GenAI, companies could transform these self-service portals into GenAI assistants that deliver more accurate, context-aware search results, significantly improving user experience by enabling quicker and more effective information retrieval.

Example problem 4:

Service delivery managers often struggle with providing personalized service recommendations...

...due to the limitations of manual processes or basic algorithms, leading to generic suggestions and lower customer satisfaction. By integrating GenAI, organizations can analyze customer data in real-time, generating highly personalized recommendations based on past interactions and preferences. This approach not only enhances the relevance and effectiveness of services offered but also improves customer engagement and satisfaction.

Now consider the potential solutions to these pain points from an operational perspective. You can use GenAI to re-imagine processes, integrate with existing technology or be used directly by humans.

Reimagine processes: GenAI may replace existing tools or overhaul current processes entirely, especially in areas like document management. GenAI can automate the extraction, categorization and filing of documents to significantly enhance efficiency and streamline operations and transform manual and tedious processes into automated, efficient systems.

Integrating with existing technology: Enhancing current technology platforms by adding new GenAI-powered features offers significant advantages. For example, the integration of AI-driven capabilities in tools like Microsoft's Power Apps and Tableau introduces AI assistants or copilots that help users interact with and analyze data more efficiently. These features offer real-time suggestions and insights while automating routine processes, thus ensuring that technological enhancements contribute directly to increased productivity and better data-driven decisions.

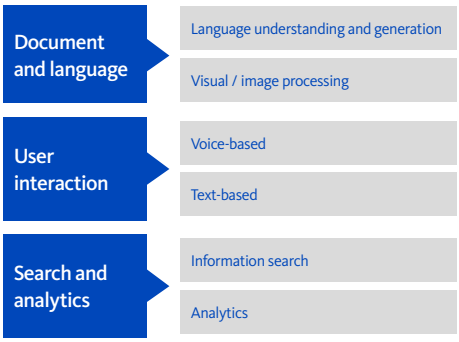
Used directly by humans: Embedding GenAI to assist humans with tasks previously done manually, such as automating data entry in finance departments, reduces errors and liberates employees to concentrate on more strategic tasks.

Once you understand the problems you intend to solve and the value delivered through efficiency gains and re-imagination, the next step is to create a comprehensive list of use cases. As you document these use cases, reflect on previous attempts to address similar issues. By analyzing past efforts, you can uncover gaps and limitations that GenAI might address more effectively, setting the stage for more successful outcomes. This comprehensive list of use cases will serve as the foundation for the next critical phase: prioritizing these opportunities based on their potential impact and feasibility to ensure a strategic and focused implementation of GenAI across your enterprise.

A3: Classifying use cases

Categorizing the systematically listed use cases by application areas doesn't need to be a separate step from listing use cases. However, it is something that should be documented to enable you to get a complete view of what has been done or is in progress within the organization. It's also an opportunity to combine use cases across different lines of businesses and find potential synergies. As an example, we classified Conduent uses cases into the following three categories, aligning with key competencies of our business process solutions.

Use case application areas



Documents and language: These applications combine advanced capabilities in language understanding, generation and visual processing to enhance interactions with both textual and visual data. They include sophisticated natural language processing techniques such as sentiment analysis, language translation and summarization. Additionally, this category features image recognition and classification, plus OCR for extracting text from images. Together, these tools transform how businesses manage documents, communicate and derive actionable insights from diverse data types.

User interaction: These applications span a broad array of tools and technologies designed to enhance and personalize user interactions with digital systems. They include conversational agents, both text and voice-based, which utilize natural language processing to facilitate communication and generate responsive solutions. User profiling, which analyzes interaction patterns and preferences, and speech processing technologies like speech synthesis and voice recognition, further enrich and personalize the user experience.

Search and analytics: These applications encompass advanced data search and retrieval capabilities through technologies like data indexing, semantic search and information retrieval. These tools enable context-aware and intent-driven searches. The analytics component includes robust data analysis and visualization tools, such as predictive and prescriptive analytics, helping organizations to make informed, data-driven decisions.

A4: Prioritizing use cases

It's best to start with a straightforward use case that requires minimal effort and that can be quickly tested and implemented. This is particularly true if your company is just beginning to explore GenAI as it helps you choose projects with the greatest potential value.

You should prioritize use cases that align with your company's strategic goals, such as enhancing customer satisfaction or securing a competitive edge. You must also assess the amount of effort required to execute each use case, considering resources, time and expertise. Additionally, the complexity of the tasks, data availability and any potential integration require careful evaluation. However, be wary of use cases that, despite their high potential impact, may demand excessive effort or where there is uncertainty about the achievability with available GenAI capabilities.

One way to prioritize use cases is to look at two dimensions: value and feasibility.

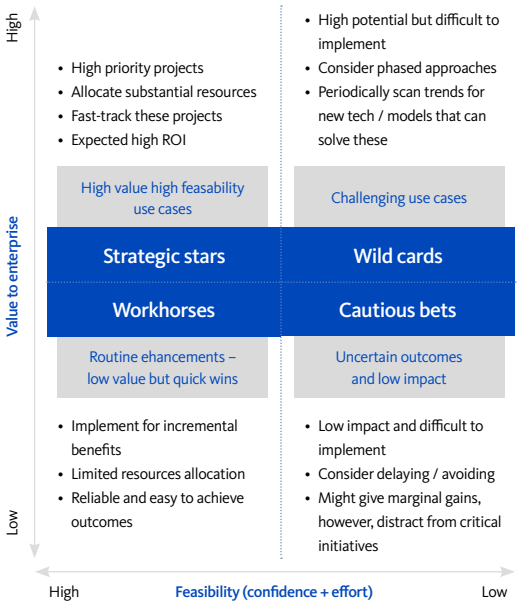
Value to the enterprise is measured by the potential for margin and revenue benefits and the breadth of impact, quantified by the number of customers who will benefit from the implementation. This ensures that projects chosen for investment not only deliver significant financial returns but also have a wide-reaching effect on customer experience and operational scale.

On the other axis, **feasibility** represents a synthesis of effort and confidence, combining the practical considerations of resource allocation and project complexity (effort) with the probability of successful implementation (confidence). This dual consideration helps in gauging the practicality of the AI initiatives, balancing ambitious gains with realistic execution plans, thereby fostering a strategic approach to transformative technology adoption.

Strategic stars are high-value GenAI projects that merge high feasibility with extensive potential business gains. These initiatives are vital due to their significant impact and high likelihood of successful implementation. They should be given the highest priority, warranting substantial resource allocation, including top talent and financial capital. It is recommended that these projects be fast-tracked to harness their benefits swiftly, expecting them to yield high ROI and major positive disruptions in operational or market performance.

Wild cards represent projects with substantial potential business impacts but are challenged by low feasibility, which makes their implementation complex. These projects could be revolutionary if successful, yet they carry significant risks due to technical or operational hurdles. We advise adopting phased approaches, initiating pilot projects or delaying full-scale execution until more favorable conditions or technological advancements emerge. This requires continuous monitoring of technological trends to identify new methods or GenAI tools/models.

Example of a GenAI prioritization framework



Workhorses are the reliable, less glamorous GenAI projects that provide lower business impact but are highly feasible and easy to implement. These projects are the consistent performers of GenAI initiatives, delivering steady, moderate, benefits. They require minimal resources, making them cost-effective and essential for achieving continuous operational improvements. The straightforward nature of these projects means they can be implemented without significant hurdles, providing assured positive outcomes.

Cautious bets are the least attractive GenAI projects, characterized by uncertain outcomes and low impact, compounded by low feasibility. These initiatives typically offer only marginal gains and may not justify the substantial efforts or resources required. Generally, it is advisable to delay, scale down or avoid these projects unless they are strategically necessary or unless their feasibility significantly improves. Such projects require careful reconsideration to ensure resource allocation aligns with potential strategic benefits. Engaging in projects with such marginal gains can distract from more critical initiatives.

The AI Prioritization Framework acts as a guide to measure the progress of ongoing projects and evolving external conditions. Before selecting any AI use case for piloting, you should also consider privacy and security concerns to ensure compliance and safeguard the interests of all stakeholders. By maintaining a dynamic approach to the framework and adhering to rigorous standards for data protection and ethical considerations, you can adeptly navigate the complexities of AI implementation while maximizing strategic benefits and minimizing risks.

Part B: Scoping and conducting PoCs / pilot programs

B1: Why it is important to scope use cases

After you have identified and selected use cases, you must test their viability. This is where the strategic scoping of a use case comes into play. It's vital to define the narrowest scope that still allows for the demonstration of technological feasibility and yields results that can stand up against established benchmarks. The goal here is to execute the PoC within the shortest time frame possible, efficiently using resources without overextension before deciding whether to proceed. If the initial outcomes meet expectations, you may consider scaling down less critical or more complex elements to subsequent phases.

A well-executed PoC offers numerous benefits, such as precise measurements and clear visibility into associated costs. The question often arises whether to pursue a narrowly scoped PoC or to engage in a more comprehensive pilot that includes an MVP. For those in the early stages of their GenAI journey, we advise a narrowly focused PoC to test the feasibility of a use case before allocating substantial resources. By their nature, PoCs are limited in scope and therefore require fewer resources, making them a cost-effective option for exploring new ideas.

However, as you progress with GenAI projects, you may need broader scoped pilots. This is especially true as the ubiquitous nature of GenAI models means that many use case ideas are well-understood and may not need basic viability testing. Instead, these scenarios require pilots that test functionality under real-world conditions or with data that reflects actual usage scenarios.

Consider this example: You're exploring the document management capabilities of large multimodal models designed to contextualize information from documents containing figures and infographics. If no prior attempts have been made in this area, it's prudent to first validate this concept with a narrowly scoped PoC to demonstrate that GenAI can indeed extract the required data. Once this basic capability is established, you should expand the scope to conduct pilots using actual or sample client data to test the application more thoroughly.

On the other hand, if you're looking to integrate an assistant chatbot into your platform, a technology that has become commonplace, there's no need to validate the basic capability of developing such a chatbot. Instead, you should shift your focus to ensuring the chatbot delivers accurate and appropriate responses, not just any response.

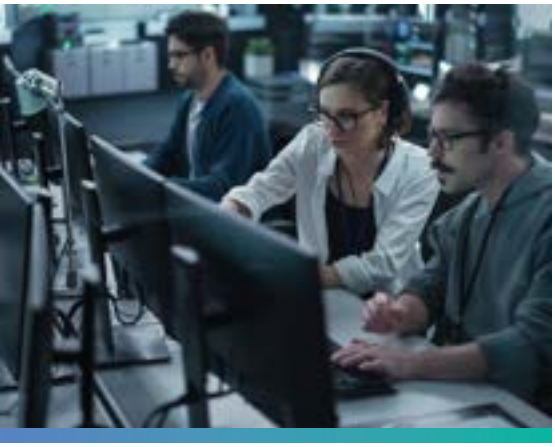
To support these efforts effectively, we recommend that you classify use cases into different application areas, such as Document Management and Language, User Interaction and Search and Analytics (which were highlighted earlier in this whitepaper). This will be particularly useful for your program team when determining the appropriate scale of testing. If you are venturing into your first application in a specific area, you should commence with a narrowly scoped PoC. This focus helps in building confidence and understanding capabilities at the onset, subsequently allowing for a transition to broader scoped pilots as the project matures and gains momentum.

A structured approach to PoCs and pilots not only helps in managing the nuances of technology implementation but also aligns GenAI initiatives closely with strategic business objectives, ensuring that each step is purposeful and geared towards tangible outcomes.

B2: How to effectively scope GenAI POCs and pilot programs

Effective scoping ensures that resources are utilized efficiently and that initiatives align with business objectives. Proper documentation and communication of the scoping process help maintain clarity and consistency throughout the project. You should be sure that your organization standardizes use-case templates that capture all relevant information. This will help communicate updates to stakeholders, align expectations and objectives, constraints and financial scope by keeping everyone literally "on the same page."

In our experience, we recommend that you clearly detail the problem, outline your business objectives, describe anticipated value and identify any measurable success factors, including a detailed budget estimation. Setting clear boundaries for operations will help manage resources effectively and prevent scope creep. Additionally, setting realistic goals and planning for contingencies are necessary due to the iterative nature of GenAI testing, which demands adaptability and responsiveness to unforeseen challenges.



By leveraging use-case diagrams, you are able to clarify the scope and flow of projects to stakeholders because you will be able to visually represent the interactions between system actors. You should also thoroughly assess the type and volume of data required for the AI use case to confirm accessibility and availability for training and testing GenAI models. This includes clarifying any necessary data approvals from clients or business units; alternatively, if you are creating sample data, it must accurately represent real data for the PoC.

We also recommend that you evaluate the technological and infrastructure needs. As part of this evaluation, you should identify the necessary hardware, software and any integrations with existing systems required to support the GenAI application. The GenAI model's behavior should be interpretable or explainable, allowing human monitoring to identify and address any biases that occur during AI use.

Since many GenAI applications deal with potentially sensitive data, it's important to set up a secure pilot environment with appropriate access restrictions. This will help you to ensure that the GenAI technology can demonstrate results that can be assessed for accuracy and validity.

Once you have defined the appropriate technology services, resources and estimated costs, you may need to revisit the PoC and possibly narrow the scope to focus efforts more effectively. Consider the scalability of the GenAI solution. Will it grow with your business needs? Does the readiness of your data infrastructure support scaling? Be sure to include project management frameworks that emphasize cross-functional teams, continuous learning and iterative development within the scope to significantly enhance the likelihood of successful GenAI pilots and full-scale implementations.

As you build your project team, you should include program and project sponsors and a cross-functional team of subject matter experts, process or operations experts familiar with the business process's value chain and technology experts experienced with the technology relevant to the use case. You will also need to determine the level of guidance, coaching and training required, plus any key partnerships that can be leveraged for support.

During the scoping phase, we recommend that you consider whether resources can reasonably contribute to the project and if their time can be managed in sprints. You should also plan and create test cases to validate the desired results. By limiting the PoC effort to one or several sprints, you can time-box the effort and maintain focus on critical deliverables. Dedicating a single block of time may not always be possible for all teams, but doing so can significantly enhance focus and progress. As with any project, you should establish tollgates between each phase (i.e., PoC, MVP, Implementation) to ensure your definition of success has been achieved before proceeding on.

With a comprehensive and well-defined scope (including budget considerations, project teams and technological needs), you are then able to set a solid foundation for the successful implementation of GenAI projects. Again, this structured approach ensures your GenAI initiatives are not only well-planned but also positioned for scalability and long-term success.

B3: Pilot execution

Reaching the pilot execution phase marks a pivotal moment in the deployment of GenAI. At this juncture, you have the opportunity to rigorously test, refine and prepare your use cases for broader application, ensuring they meet the intended goals and expectations. Again here, it's good to check in with stakeholders — remind them of anticipated benefits and project forecasts and re-establish buy-in so there are no surprises later. Assuming you've established a secure testing environment and selected GenAI models from thoroughly vetted vendors, this stage allows you to test and compare these models to determine if it aligns with your project's defined scope. This strategic evaluation helps ensure that your final implementation is both effective and well-supported.

The true value of GenAI is realized through the strategies employed during implementation or testing. We have discovered that customizing or crafting more precise prompts or instructions can significantly impact the success of your use cases. In our experience, collecting feedback and data throughout the pilot execution phase will help refine AI instructions. You should also engage end-users for their insights; their feedback is invaluable and may necessitate adjustments to enhance model performance. For instance, if users report that AI-generated responses feel too generic, integrating more specialized domain knowledge into the model could improve its responsiveness.

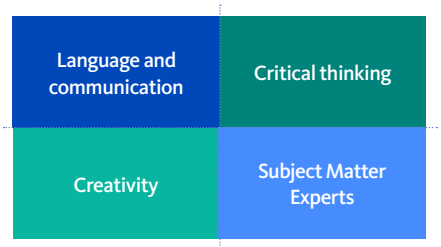
Example:
In one pilot, we introduced a technique where we input data to GenAI models in "chunks" rather than all at once. This resulted in outputs that more closely matched our objectives. This underlines the iterative nature of pilot execution. Rather than outsourcing development, it necessitates the involvement of a cross-functional team that includes subject matter experts who contribute their insights directly to the engineers during working sessions.

Prompt engineering is a fundamental technique in the deployment of GenAI and plays a pivotal role in guiding the behavior of AI models. We liken this process to the initial instructions you would provide a new employee. Just as you guide a new team member through their tasks, prompt engineering directs GenAI models by providing them with specific commands or questions. GenAI operates probabilistically, not deterministically, meaning it generates outputs based on the likelihood of various outcomes rather than fixed paths. Therefore, simple step-by-step instructions often need to be accompanied by continuous testing and refinement to ensure the prompts lead to the desired results.

This methodical approach to prompt engineering is essential for tailoring AI behavior to specific tasks and contexts. For example, consider the development of a customer service chatbot. You can analyze historical customer queries to design custom prompts that cater to various types of inquiries, such as product information, technical support and order status updates. You must also continuously evaluate the effectiveness of these prompts and adjust them based on their performance. This will ensure they meet the desired outcomes.

To help you to develop effective prompts, we identified four critical components that enhance prompt design: Language and communication, creativity, critical thinking and subject matter expertise. These elements suggest that a cross-functional team with both technical and domain expertise is better equipped to craft effective prompts.

Four critical components
that enhance prompt design



Some advanced prompt engineering techniques that work

Beyond the standard approaches to prompt engineering and GenAI model optimization, here are some specific strategies we've used to deliver excellent results:

Using examples: Incorporate examples into your prompts. This can significantly enrich the context provided to GenAI, bringing you closer to the desired output. By demonstrating specific instances or scenarios, the GenAI model gains a clearer understanding of the task at hand, resulting in more accurate and contextually relevant responses.

Chain of thought prompt engineering: Prompt GenAI to reveal the reasoning behind its outputs. This can dramatically improve accuracy and relevance. If the model produces an unexpected result, understanding its thought process allows for targeted refinements. This method involves iteratively adjusting the prompts to guide the model towards the intended reasoning path.

Chunking data: Break down large datasets into smaller, manageable segments, or "chunks," and enrich these segments with contextual details. This approach enables GenAI models to process and analyze data more effectively, leading to more accurate and relevant outcomes. By focusing on smaller subsets of data at a time, the models can perform deeper and more precise analysis.

Agentic prompts for complex applications: Use agentic prompts for certain applications, where a dynamic methodology can significantly enhance output quality. In this approach, a GenAI model generates an initial output, which is then evaluated by another GenAI instance. If the output does not adhere to predefined guidelines, the system iteratively regenerates the output. This cyclical process continues until the output satisfactorily meets the established standards. This iterative refinement ensures that each response is not only accurate but also aligns closely with specific requirements, making it highly effective for complex scenarios.

Combining different technologies in PoCs and pilots: Incorporate technologies like Retrieval-Augmented Generation (RAG) and vector indexing to improve the retrieval and processing capabilities of GenAI systems. RAG leverages neural networks and retrieval mechanisms to enhance response quality, ideal for applications needing to access vast information repositories. Vector indexing facilitates the rapid search of large datasets by converting text into vector space, which is required for applications that need quick and precise information retrieval, such as real-time customer support or complex data analysis.

To that end, incorporating advanced databases into your GenAI setup can significantly boost data management and scalability. Utilizing graph databases, for example, assists in managing complex data relationships and interdependencies, enhancing applications that demand nuanced understanding and contextual awareness. By combining these technologies, you create a dynamic GenAI environment that optimizes performance and outcomes, laying a robust foundation for scalable and efficient full-scale deployment.

Documentation of pilot execution

Thorough documentation of your pilot execution process will serve as a vital resource for future AI initiatives, enabling teams to streamline processes, apply best practices and avoid past missteps. Your documentation should include specific challenges you encountered, the solutions that you implemented and any key lessons learned throughout the project.

To establish a robust foundation for successful GenAI implementations, you will need to execute pilots with meticulous attention to detail, focusing on model transparency, data privacy, refining prompts, collecting continuous feedback and fostering effective cross-functional collaboration. This systematic approach not only validates the effectiveness of the AI solution but also strengthens stakeholder confidence, facilitating a seamless progression to full-scale deployment.

Part C: Takeaways and considerations

C1: Outcome analysis and benefit realization

Following the conclusion of your PoC, your detailed documentation —of challenges encountered and benefits realized — will serve as the foundation for a critical evaluation. It allows for a thorough comparison of project outcomes against the success metrics that you defined during the scoping phase. We recommend assessing whether these benchmarks have been met (or exceeded) and whether the pilot has successfully demonstrated tangible business value.

As you move forward, shift your focus to a comprehensive analysis of these outcomes. This process is not solely about measuring results; it involves understanding their broader implications, which will guide informed decisions about future implementation. Below, we outline several key areas of consideration that will help you in this evaluation.

Validation of hypotheses: We recommend confirming that the GenAI solution performs as expected within a real-world environment. This involves identifying any gaps where the solution may fall short of meeting the anticipated needs or expectations, ensuring that the initial assumptions and hypotheses are validated.

Technical feasibility: Evaluate whether the current technology infrastructure is robust enough to support the GenAI solution at scale. This assessment should include insights into potential integration challenges, the need for additional technological enhancements and an evaluation of the system's ability to handle increased loads or broader deployment across the organization.

Business impact: Quantify the tangible improvements brought about by the GenAI solution, such as increased operational efficiency, cost reductions or enhanced customer satisfaction. Additionally, there may also be qualitative benefits for you to consider, like improved decision-making capabilities, a better user experience and how these improvements align with your organization's strategic objectives.

Risk identification: You should identify potential risks and obstacles that could hinder the deployment of the GenAI solution across various business sectors. This includes recognizing compliance and security risks that might arise, as well as any other factors that could negatively impact the successful implementation of the solution.

Stakeholder feedback and innovative insights: Gather comprehensive feedback from end-users and stakeholders to assess the effectiveness and usability of the GenAI solution. These insights can present new opportunities or suggest further enhancements to the AI solution, ensuring that it evolves in line with user needs and organizational goals.

Cost assessment: Conduct a thorough review of all associated costs, including infrastructure, personnel, GenAI model utilization (token costs), technology integration, licensing fees and any other relevant expenditures. This assessment ensures that the financial implications are well understood, managed and aligned with the projected return on investment.

C2: Outcome scenarios and strategic next steps

After completing the outcome assessment, you may encounter scenarios that will determine if more pilots are needed or if the project can advance to a MVP or even to full-scale production. In some instances, the outcome analysis might reveal that you met all objectives and the GenAI solution is functioning as intended. This complete success scenario allows for a swift transition to deployment across the organization, capitalizing on the positive results achieved during the pilot or PoC.

However, there may be cases where the pilot or PoC yields promising results, but the associated effort and costs required for production are prohibitive. In such scenarios, you might scale down the project, explore more cost-effective alternatives or pause further development until conditions improve. Alternatively, the pilot may show partial success, indicating that while some aspects of the GenAI solution are effective, others require significant refinement or reconfiguration. This would necessitate specific adjustments and potentially additional rounds of testing before moving forward with deployment.

There may also be technological limitations revealed during evaluation that prevent your current GenAI model from meeting all intended objectives. This could prompt a decision to upgrade the technology, switch to a different GenAI model or even postpone further implementation until the technology is better aligned with business needs. Similarly, regulatory or compliance issues might be identified, where the solution, despite its technical feasibility, fails to comply with industry regulations or data privacy laws. This would require a reassessment of legal and compliance strategies, potentially leading to a redesign of the solution to meet regulatory standards.

Unforeseen costs or resource constraints can emerge, making maintenance unsustainable. In this case, your organization may decide to scale down the project, seek alternative, cost-effective solutions or allocate additional resources if the projected ROI justifies the expense. But, even with technical success, you may still encounter resistance from key stakeholders to invest further. Such cases may require deeper stakeholder engagement to demonstrate the business value more clearly or adjust the project to better align with stakeholder expectations.

Of course, some use cases might not justify development based solely on direct benefits identified. However, they may offer foundational capabilities with long-term implications, even if short-term benefits are difficult to gauge. These foundational capabilities might align with a strategic bet your company is willing to take, so it's important to continue driving them forward.

For those cases where a decision is made not to implement or move to production, it's essential for your program team to update the GenAI use case prioritization framework, use the latest learning and adjust accordingly. It also helps to stay informed about market trends that could allow you to reprioritize a use case as advancements in GenAI technologies continue to evolve.

C3: Implementation, communication and governance planning

Throughout this whitepaper, we have touched on critical elements for successful implementation of GenAI like scalability planning, integration with existing systems, data security and privacy. However, there are a few more considerations to ensure that your implementation is effective and sustainable.

Project management team responsibilities:
Your project management team should focus on establishing a robust Continuous Improvement Strategy with a clear communication plan. This involves creating a plan for ongoing monitoring and iterative improvements post-implementation, which will help in quickly addressing any emerging issues or capitalizing on new opportunities. This plan should keep all stakeholders informed about progress, challenges and any significant changes during the implementation phase, ensuring transparency and alignment.

Budget and resource allocation need to be reassessed to ensure that the project is adequately funded for full-scale deployment. This includes setting aside contingency funds to manage any unforeseen costs that may arise. Additionally, your team should develop a comprehensive training plan that ensures end-users are not only comfortable with the new system but are also capable of using it to its full potential. Performance and risk monitoring is another critical responsibility of the project team; this involves continuously reviewing results against project objectives to identify and mitigate any red flags during and after implementation.

Program management team responsibilities:
The program management team plays a crucial role in expanding the adoption of GenAI across the organization. One effective approach is to create a marketing plan that takes successful use cases on roadshows within the organization. This strategy fosters the development of new GenAI use cases by inspiring different departments and teams to think creatively about how AI can enhance their processes. This can also secure buy-in for future projects.

The program management team should also focus on developing comprehensive training programs. These programs should aim to educate more people within the organization about the challenges, benefits and potential hurdles associated with GenAI implementations. This broader understanding across the company can facilitate smoother adoption and integration of GenAI technologies in various business areas.

Legal, risk, compliance and ethical considerations:
Finally, any GenAI project must rigorously address legal, risk, compliance and ethical considerations. This aspect of governance should be handled at both the project and program levels. Initially, this might involve the formation of a steering committee or leadership team to oversee these critical areas. Eventually, it should evolve into a more formalized governance program that provides ongoing oversight of all GenAI activities.

Because GenAI is still new, staying up to date with regulations and standards that are being developed by governments, agencies and industry bodies can be challenging. This is why establishing a clear go-to policy on AI fairness, accountability and transparency that applies enterprise-wide is essential. Your organization should also raise awareness about AI use in work environments, ensuring that AI systems are regularly reviewed for bias and fairness. Ongoing education and training for key stakeholders will help maintain a high standard of governance as your GenAI initiatives evolve.

Moving forward with GenAI

Implementing GenAI in enterprises is a multifaceted endeavor that demands strategic alignment, careful planning and continuous evaluation. The journey begins by thoroughly understanding the capabilities and limitations of GenAI, dispelling prevalent myths and recognizing the substantial benefits it can bring to various business functions.

From the outset, we adopted a programmatic approach, systematically analyzing potential areas where GenAI could deliver significant efficiency gains or strategic advantages. By categorizing and prioritizing use cases using Conduent's GenAI Prioritization Framework, we ensured that our efforts were focused on initiatives with the highest potential value and feasibility. This structured methodology not only streamlined decision-making but also laid a solid foundation for successful GenAI implementation across the organization.

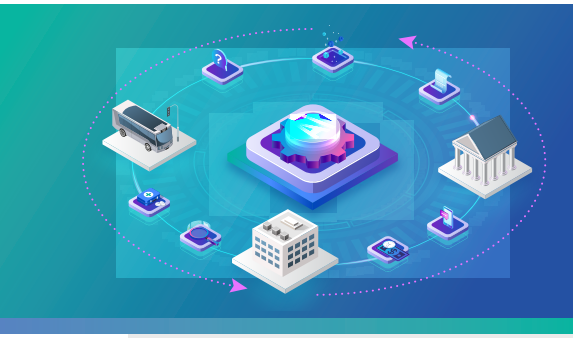
As we progressed, we emphasized the importance of scoping, executing and documenting PoCs and pilots. This ensures that resources are utilized efficiently and that the project aligns with overarching business objectives. By narrowing the scope to demonstrate technological feasibility within a limited timeframe, we positioned ourselves to make informed decisions about further development. This approach allows for strategic resource deployment and ensures that initial outcomes guide the project's direction.

During the pilot execution phase, we assessed continuous feedback and refined AI instructions as needed. This iterative process, combined with advanced prompt engineering techniques and the integration of complementary technologies, plays a critical role in optimizing GenAI models to achieve specific objectives. Thorough documentation of the pilot process, including challenges, solutions and lessons learned, helps to setup future AI initiatives for success.

Finally, we evaluated the outcomes of GenAI pilots and PoCs, along with strategic considerations for moving to full-scale implementation. Thorough documentation and analysis of outcomes against predefined success metrics are essential for determining the project's success. This evaluation guides the decision-making process, addressing various scenarios from complete success to identifying limitations that require strategic adjustments.

As your organization moves forward, be sure to align project and program management teams. Focus on continuous improvement, effective communication and comprehensive training — all while ensuring robust governance around legal, risk, compliance and ethical considerations. Establishing clear policies on AI fairness and accountability, along with ongoing stakeholder education, will ensure that GenAI initiatives are not only successful but also sustainable and aligned with evolving regulatory standards.

Adopting best practices in implementing GenAI ensures that your organization not only realizes its full potential but also creates a scalable, ethical and future-ready framework. With strategic foresight, careful prioritization and ongoing governance, your business can turn GenAI into a powerful driver of sustainable innovation and long-term competitive advantage.



About Conduent

Conduent delivers digital business solutions and services spanning the commercial, government and transportation spectrum – creating valuable outcomes for its clients and the millions of people who count on them. The Company leverages cloud computing, artificial intelligence, machine learning, automation and advanced analytics to deliver mission-critical solutions. Through a dedicated global team of approximately 55,000 associates, process expertise and advanced technologies, Conduent's solutions and services digitally transform its clients' operations to enhance customer experiences, improve performance, increase efficiencies and reduce costs. Conduent adds momentum to its clients' missions in many ways including disbursing approximately $100 billion in government payments annually, enabling 2.3 billion customer service interactions annually, empowering millions of employees through HR services every year and processing nearly 13 million tolling transactions every day.

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Nitin Jain

Nitin Jain leads corporate strategy at Conduent, where he is responsible for driving strategic planning, as well as market and competitive intelligence. He is also spearheading the incubation of GenAI across the company's solutions and operations. This includes defining the strategy and approach, developing use cases and fostering ecosystem partnerships. Over his career, Nitin has led strategy development stemming from new technology catalysts such as digital transformation, IoT and AI.

Varun Khosla

Varun Khosla is a seasoned Strategy Consultant at Conduent, playing a pivotal role in aligning organizational strategies with market trends and uncovering growth opportunities through data-driven consulting. He has led key initiatives in corporate and business strategy development, orchestrating strategic alignment across business units and annual planning. Varun has been integral to the incubation of GenAI by providing expertise in business strategy and process transformation. Before joining Conduent, he held strategic roles in several companies, honing his skills in digital transformation, strategic consulting and market research. His diverse background and expertise continue to drive Conduent's impactful transformation.

April Weihe

April Weihe is a Transformation Leader at Conduent, where she drives key initiatives within the Enterprise Transformation organization, including Conduent's AI initiatives. She stepped into this role after successfully transforming the technology organization's Program and Project Management Office (PMO). With over 25 years of experience, April specializes in managing technology programs, projects and teams, as well as overseeing strategic account management. She holds a Project Management Professional (PMP) certification and remains a key driver of impactful organizational change at Conduent.

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